Best Practices for Water Quality Trading Joint Regional Agreement

Interagency Workshop #2

June 5th & 6th 2013

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Overview: Agenda

Day 1

Introductions & Overview

Communications plan

- Trading program requirements -Regulatory baselines
- Regulatory baselines (continued)
- Trading ratios and reserves
- Review of workshop #1 outputs
- Done @ 4:30, Reception @ 5:00, dinner

Day 2

- Eat @ 7:30, Start @ 8:30
- · Day 1 Recap and Mop-up
- Credit quantification
- Lunch
- Credit characteristics (or other)
- · Next steps and action items

Done @ 3:00pm

Overview: Workshop Objectives & Timeline

- Worksnop 1 April 9-10 in Union, WA
 Re-establish overall project, goal
 Discuss Guiding Principles for trading
 Discuss Tier II—Eligibility criteria, BMP quality, and verification

- Workshop 2 June 5-6 in Troutdale, OR

 Review points of agreement out of Workshop 1

 Discuss Tier II—TMDL allocations, Baseline, Credit quantification, Ratios, Credit life, stacking

- Workshop 3 August 21-22 in Boise, ID

 Points of agreement from Workshops 1 & 2

 Discuss Tier II—Monitoring, compliance, enforcement, adaptive mgmt.

- Workshop 4 October 16-17 in Union, WA

 Remaining points of agreement and Tier III state appendices

 Moving into testing
 Communications and commenting

Overview: NWEA Points and Link to Agenda Workshop 1 April 9-10 in Union, WA Discuss Guiding Principles for trading Discuss Tier II—eligibility criteria, BMP quality, and verification Lease period Workshop 2 June 5-6 in Troutdale, OR Load allocation assumptions Baseline requirements for agriculture Clarifying elements of a trading ratio Workshop 3 August 21-22 in Boise, ID When can credits be issued Compliance schedules Workshop 4 October 16-17 in Union, WA Tier II Outline 1. Eligibility 8. Credit registration 2. Overall Requirements 9. Project site monitoring and record keeping 3. Pre-project conditions 10. Compliance & enforcement 4. Project quality standards 11. Program effectiveness and 5. Credit quantification adaptive management 6. Credit characteristics 7. Credit verif. and certif. Tier II Outline 1. Eligibility 8. Credit registration 2. Overall Requirements 9. Project site monitoring and record keeping 3. Pre-project conditions 10. Compliance & enforcement 4. Project quality standards 11. Program effectiveness and 5. Credit quantification adaptive management 6. Credit characteristics Workshop 1 | Workshop 2 | Workshop 3 7. Credit verif. and certif.

Communications Plan

- Does the Communications Plan provide a pathway to: A) Get the best information possible flowing into and out of the process, and B) Stay transparent?
 - Posting materials to WP website; Naming conventions
 - · Summer and late fall open houses
 - · Specific outreach in states

Does this sound about right?

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Tier II: Trading Program Requirements

Regulatory Baseline - Deriving, expressing, and applying

Additionality

Trading Ratios

Reserve Pool

Tier II: Tradi	ng Program	n Requirements

2,3 Regulatory baseline and 2.4 Additionality

Reviewed temperature, nutrient, and sediment TMDLs in all 3 states:

- Temperature: South Fork Clearwater; Rogue Basin; Snoqualmie
- · Nutrients: Mid Snake; Spokane; Klamath
- · Sediment: Lower Boise; Bear Creek; Upper Yakima
- EPA checklists for temperature, nutrient, and sediment TMDLs in the last 5 years for WA, OR

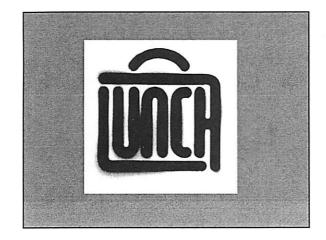
Looking for:

- Consistencies in use of HUA and how LAs are set
 Surrogate measures used to quantify desired outcomes
 Clear ways to tie baseline requirements to analyses in existing TMDLs

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Tier II: Trading Program Requirements 23 Regulatory baseline and 24 Additionality 2003 EPA Guidance is silent. 2007 Permit Writers Toolkit is clear, but not easily connected to how TMDLs are being done. How can we set baselines for existing TMDLs in a way that best and	- Se Wickeller
most quickly moves the needle toward improved water quality?	
Tier II: Trading Program Requirements	
2.3 Regulatory baseline and 2.4 Additionality 2.3.2 Deriving expressing, and applying baseline requirements Expressing Regulatory Baseline • minimum set of BMPs • minimum BMPs, targeted to priority areas • % or absolute load reduction Considerations are:	
technical (tying to the TMDL), practical (setting clear expectations, flexibility to meet requirements efficiently), and political (equity amongst early and late adopters) What is the best way to express baseline requirements? When might we deviate?	
Tier II: Trading Program Requirements	
2.3 Regulatory baseline and 2.4 Additionality 2.3.2 Deriving, expressing, and applying baseline requirements How are baselines used to develop and support meeting LAs? • Maximum implementation of BMP actions • Assumptions about likely implementation rates • Somewhere in between?	

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Tier II: Trading	Program	Requirements
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2.3 Regulatory baseline and 2.4 Additionality
2.3.2 Deriving, expressing, and applying baseline requirements

Scale of setting and meeting baseline requirements
• Individual landowners or groups of farms?

Timing of meeting baselines

• Does baseline need to be met before any credits can be generated? Simultaneously with credits, but before sale?

- Base year for crediting

 When does the clock start ticking? On approval of the TMDL? Permit?
 - Is there reason to allow all practices to participate? Consider a "look-back" period?

Tier II: Trading Program Requirements

2.3 Regulatory baseline and 2.4 Additionality
2.3.2 Deriving, expressing, and applying baseline requirements

Use of cost-share funds

- · What is the role of public dollars, specifically cost-share in meeting baseline requirements?

 • Are there reasons not to allow the use of these funds?

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Tier II: Trading Program Requirements

2.1 Trading ratios
Based on U.S. EPA's Permit Writer's Toolkit and In It Together.

<u>Delivery or location ratios</u>: Account for the change in pollutant quantity and form as it moves from a point upstream to a further point downstream, from the edge of a field into the stream.

Equivalency ratios. These ratios adjust for trading in different forms of the same pollutant (e.g. nutrients → DO)

<u>Uncertainty or Reserve ratios</u>. There are a lot of unknowns in trading. Uncertainty ratios can help account for measurement uncertainty and implementation uncertainty as better science becomes available.

<u>Retirement ratios</u>: Retirement ratios can help trading A) create a net water quality benefit, and/or B) meet nonpoint baseline requirements

Tier II: Trading Program Requirements

2.1 Trading ratios

- · What needs to be included in a ratio?
 - · Delivery/attenuation; Equivalency; Uncertainty/reserve; Retirement
 - · Separated out or lumped together? When and why?
- · What is the right scale for setting ratios?
- · Always more than 1:1?

How should a ratio decision be documented?

Tier II: Trading Program Requirements

2.2. Reserve Pool

- · Who contributes to the reserve pool? How much?
- Who manages the reserve pool (market administrator, state, point source entity)?
- Under what circumstances can a point source access credits from the reserve pool, when must they be purchased?
- If the reserve gets too large, how are surplus credits dealt with?

Reviewing Progress from Workshop #1

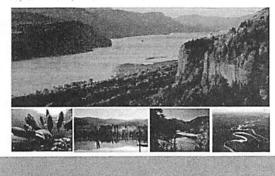
- Did we get the language right for:

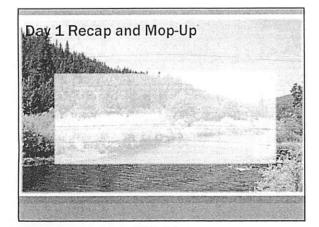
 Guiding Principles
 1.1. Eligible trading environments
 1.2. Eligible buyers

 - 1.3. Trading areas
 4.2. Consistency with other laws
 4.5. Minimum contract length
- Where are we on determining eligible BMPs and quality standards?
- Update on thinking around validation, verification, certification, registration—who does what and implications

Building regional agreement on water quality trading

Day 2, Workshop # 2, June 5th-6th, Troutdale, OR





- 5. Credit Quantification at individual project sites; Identifying, evaluating, and approving quant methods Edge of the field, into the stream, through the watershed
- 3. Project site assessment Pre-project site conditions assessment Initial estimate of project site future condition

Tier II: Credit Quantification

5.0 a Options for quantifying water quality benefits for trading (where TMDL models cannot be used)

- Modeling
 Predetermined rates
 Direct Monitoring

- What makes a good-quantification method?

 Right tool for the job

 Tied to monitoring data, technical review

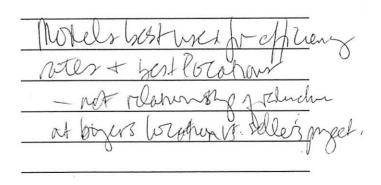
 Formal approval

 Adaptive management improvement over time and version control

Tier II: Credit Quantification

5.0 a Options for quantifying water quality benefits for trading

- Modeling
 What makes a good model?
 - Accurate & sensitive
 - · Calibration against measured data, expert judgment
 - Technical review
 - Repeatable
 - User guidance and forms
 - Transparent
 - Technical documentation
 - · Peer review?
 - · Practical
 - Compatible with other relevant models



5.0 a Options for quantifying water quality benefits for trading

- Modeling
 Predetermined rates
 - · What needs to be in place?
 - · Technical documentation
 - · Clear delineation of where it can be applied, associated

Tier II: Credit Quantification

5.0 a Options for quantifying water quality benefits for trading

- Modeling
 Predetermined rates Direct Monitoring
 - · What needs to be in place?
 - · Monitoring and QAQC plans
 - · Instrumentation is verifiable

 - Records

Tier II: Credit Quantification

5.0 a Options for quantifying water quality benefits for trading

- Modeling
- Predetermined rates
 Direct Monitoring

Does this sound right?

. When and where is each approach most appropriate?

What are we missing?

5.0 a Options for quantifying water quality benefits for trading

- · Direct Monitoring

What makes a model work for trading?

- Outputs Scale

- Resolution
 Attenuation with multiple inputs and outputs
- All other characteristics of a good model

Tier II: Credit Quantification

5.1/5.2.a Quantifying conditions at the edge of the field and through the watershed

Field-scale: Hydrologic characterization tool; NTT; BMP efficiency rates; STEP-L: APEX Watershed-scale: QUALZK, QUALZKw, CE-QUAL-W2 and flow duration curves, WARMF, BASINS, SWAT), MIKE model suite

Field-scale: SISL; Hydrologic characterization tool; STEP-L; streambank erosion inventory; WEPP; RUSLE.

Watershed-scale: BASINS, SWAT, and the MIKE model suite

Tier II: Credit Quantification

3. Project site assessment

specific BMPs?

Field Scale: HeatSource modules and extensions--Shade-a-lator and the T-Tools extension; Shade; CE-QUAL-W2; HEC-RAS; PNV; W3T Watershed-scale: Heat Source, HEC-RAS, CE-QUAL-W2, W31

Can we narrow this list to reflect those most appropriate to consider for trading? Which methods would like to learn more about?

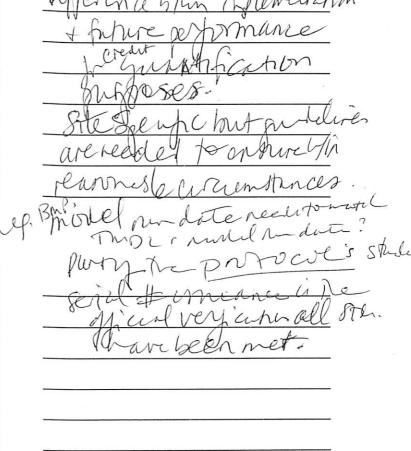
· What documentation is needed to establish current conditions for

urrent canopy cover, buffer width, stem density, species composition nvasive cover, and channel characteristics (e.g. wetted width). A mag with location and extent of BMPs Last 3 years of crop rotations. A map with location and extent of BMPs

Next withy: the This pel

3. Project site assessment

- What documentation is needed to establish current conditions for specific BMPs?
- · Who collects data on current conditions?
- · For modeling approaches, how is the future condition defined?





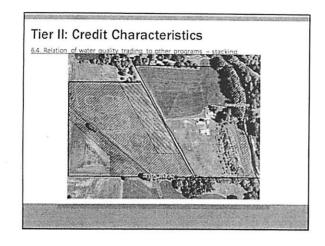
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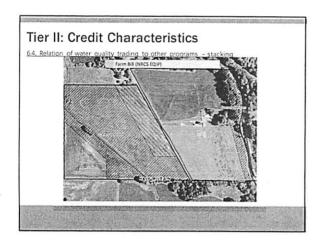
Credit life and renewal of credits

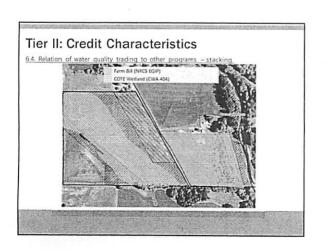
Accounting treatment of credits

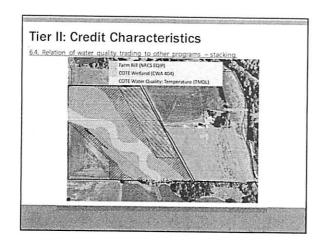
Relation of water quality trading to other programs (stacking)

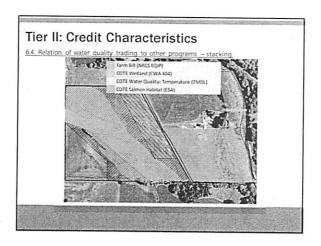
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	6.4. Relation of water quality trading to other programs - stacking	
	Stacking credits vs stacking payments	

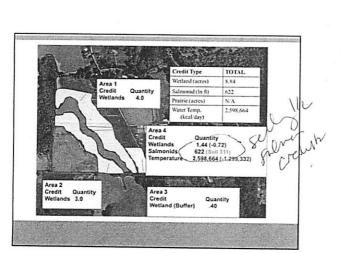












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Bully - eg. sticks. 202, ters, public thebing - My chrotochudelige auto 5/31/2013 Tier II: Credit Characteristics 6.4. Relation of water quality trading to other programs - stacking · Can project developers generate multiple credits for the same action? · Can public dollars be used to generate credits? · What kind of accounting mechanisms are needed to track this? Tier II Outline 8. Credit registration 9. Project site monitoring and 2. Overall Requirements record keeping 3. Pre-project conditions 10. Compliance & 4. Project quality standards enforcement 5. Credit quantification 11. Program effectiveness and adaptive management 6. Credit characteristics

Next Steps Action items from Workshop 2 What analysis to bring for Workshop 3? Other next steps

Warkshop 1 | Warkshop 2 | Warkshop 3

Stacking credits

Stacking payments

1. Eligibility

7. Credit verif. and certif.

Workshop #3

- Project site monitoring, maintenance, and recordkeeping

 Site monitoring ,reporting, and record keeping requirements

 Contractual obligations for parties involved in trading
- Compliance and enforcement

 Permit conditions

 Requirements at discharge point & discharge monitoring reports

 Dealing with non-compliance with trading provisions of a permit

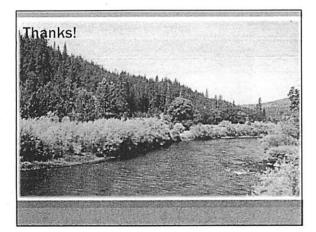
- Program effectiveness and adaptive management

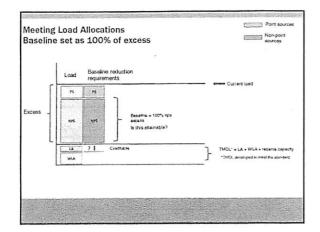
 Gathering data needed to adaptively manage

 Adaptive management cycle

 Setting interim and final benchmarks for assessing effectiveness
- Role of agencies and third parties in validation, verification, etc.
- Quantifying and tracking voluntary actions (e.g. Farm Bill, conservation districts, other watershed investments)

What should we be working on to prepare for these?

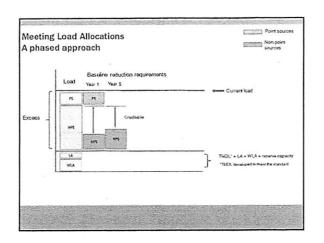




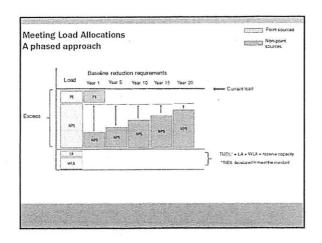
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Meeting Load Allocations
A phased approach

Baseline reduction requirements
Year 1 Year 5 Year 10 Year 15 Year 20

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